AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A plasma etching reactor comprising a reaction chamber surrounded by a leakproof wall, said reaction chamber containing a substrate support and communicating with a plasma source, said reactor further comprising: a heater liner of a metal or alloy lining at least part of the leakproof wall of the reaction chamber in non-leakproof manner, and an intermediate thermal insulation space provided between the heater liner and the leakproof wall of the reaction chamber.

2. (Previously Presented) A reactor according to claim 1, characterized in that the metal or alloy is selected from metals and alloys that do not react with the fluorine-containing etching gas or the passivation gas to form volatile compounds.

3. (Previously Presented) A reactor according to claim 2, characterized in that said metal is aluminum or titanium.

4. (Previously Presented) A reactor according to claim 1, characterized in that it further comprises:

bias means for biasing the substrate support in order to control bombardment by particles coming from the plasma;

an etching gas source, and means for controlling the etching flow rate to govern the introduction of etching gas into the plasma source;

a passivation gas source, and means for controlling the passivation flow rate for governing the introduction of passivation gas into the plasma source; and

a control device adapted to cause the etching gas flow rate control means and the passivation gas flow rate control means to operate in alternation.

5. (Previously Presented) A reactor according to claim 1, characterized in that the heater liner is fastened to the leakproof wall of the reaction chamber by a small number of fasteners.

6. (Previously Presented) A reactor according to claim 5, characterized in that the intermediate space between the heater liner and the leakproof wall of the reaction chamber communicate with the central space of the reaction chamber via an annular space of small thickness.

7. (Previously Presented) A reactor according to claim 5, characterized in that the fasteners are of a material which opposes the transfer of heat energy by conduction from the heater liner to the leakproof wall of the reaction chamber.

8. (Previously Presented) A reactor according to claim 5, characterized in that the heater liner is suspended from the leakproof wall of the reaction chamber by three projections having heads, projecting beneath the face of the leakproof wall and engaged in keyhole-shaped slots each having a wide portion and for passing a head and a narrow portion for retaining the head.

9. (Currently Amended) A reactor according to claim 1, characterized in that the heater liner is thermally coupled to a heater ~~suitable for connection~~connectable to an external source of electrical energy.

10. (Previously Presented) A reactor according to claim 9, characterized in that the heater comprises electrical resistances comprise thin-film electrical resistances and/or electrical resistances of the thermocoaxial type.

11. (Currently Amended) A reactor according to claim 1, characterized in that the heater liner is heated by radiant heater means ~~such as infrared elements~~.

12. (Previously Presented) A reactor according to claim 1, characterized in that the heater liner is associated with temperature-regulator means for regulating its temperature in a desired range of temperature values.

13. (Previously Presented) A reactor according to claim 1, characterized in that the heater liner includes a heater suitable for heating it to a temperature higher than 150°C.

14. (Canceled)

15. (Previously Presented) A reactor according to claim 1, characterized in that downstream from the substrate support the reaction chamber is limited by a conductive grid in thermal contact with the heater liner.

16. (Previously Presented) A reactor according to claim 1, characterized in that the substrate support comprises electrostatic electrodes for attracting the substrate.

17. (Canceled)

18. (Canceled)

Please add the following new claim:

19. (Previously Presented) A reactor according to claim 2, characterized in that the metal or alloy is selected from metals and alloys that do not emit contaminating atoms under the effect of plasma bombardment.